



# ecology and environment, inc.

160 SPEAR STREET, SAN FRANCISCO, CALIFORNIA 94105, TEL. 415/777-2811

International Specialists in the Environment

## MEMORANDUM

TO: Paul La Courreye, EPA Region IX Site Screening Coordinator  
FROM: Chris Lichens, Ecology and Environment, Inc. *CL*  
DATE: August 11, 1989  
SUBJECT: Completed Work  
cc: Marcia Brooks, E & E, Inc.

Attached is the following completed:

PA\_\_\_\_ PA Review\_\_\_\_ SSI X LSI\_\_\_\_ SIRE\_\_\_\_

Other

Site Name: Swift Adhesives and Coatings

EPA ID #: HID980637516

City, County: Honolulu, Honolulu County

State Recommendation:  
(for Reviews only)

---

FOR EPA USE ONLY

CERCLIS Lead:  
*EPA-F*

*SSI Complete*  
*NPPAP*

*PNL*

*8.29.89*

h/tb/swift/ssi

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*✓ VI → A, SSI, LI, F, 08.29.89 / SSI → V, N*

Purpose: CERCLA Screening Site Inspection

Site: Swift Adhesives and Coatings  
2847 Awaawaloa Street  
Honolulu, Hawaii 96819  
Honolulu County

**EPA**  
**HAZARDOUS**  
**SITE**  
**EVALUATION**  
**DIVISION**

## Field Investigation Team Zone II



**CONTRACT NO.**  
**68-01-7347**

**ecology and environment, inc.**

International Specialists in the Environment

Purpose: CERCLA Screening Site Inspection

Site: Swift Adhesives and Coatings  
2847 Awaawaloa Street  
Honolulu, Hawaii 96819  
Honolulu County

Site EPA ID Number: HID980637516  
TDD Number: F9-8811-070  
Program Account Number: FHI0037SAA  
FIT Investigators: Thomas W. Beer  
Rita Mundy  
Date of Inspection: February 3, 1989  
Report Prepared By: Thomas W. Beer *JWB*  
Report Date: August 11, 1989  
FIT Review/Concurrence: *Chris Lichen, 8/8/89*  
Submitted To: Paul La Courreye  
Site Screening Coordinator  
EPA, Region IX  
cc: FIT Master File  
Mark Ingoglia, State of  
Hawaii Department of  
Health Services



**ecology and environment, inc.**

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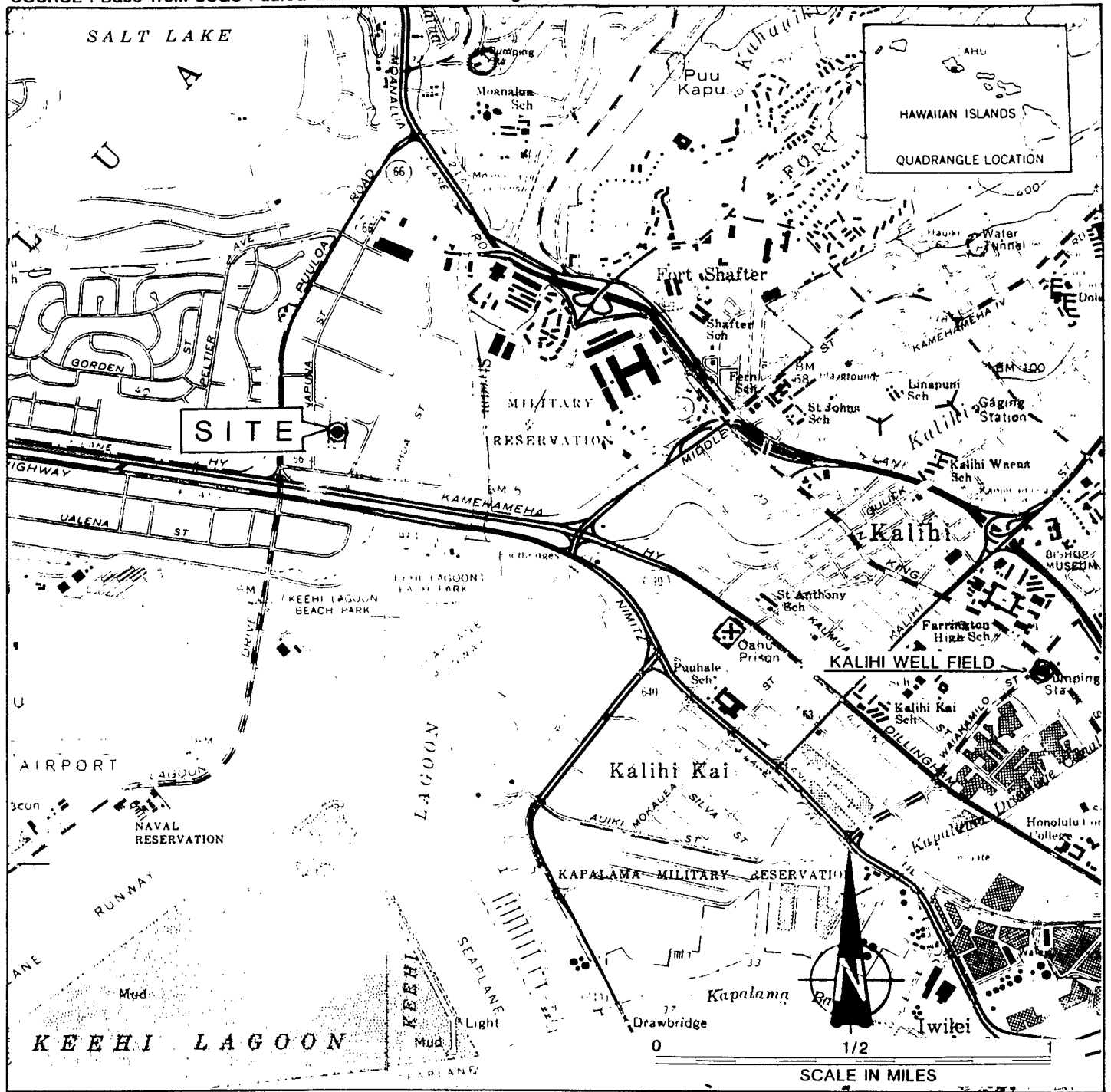
## 1. SITE DESCRIPTION

Pursuant to Technical Directive Document number F9-8811-070, Ecology and Environment, Inc.'s Field Investigation Team (FIT) conducted a Screening Site Inspection at the Swift Adhesives and Coatings (Swift) facility in Honolulu, Hawaii. This report summarizes FIT's investigative efforts and draws conclusions regarding the site's eligibility for inclusion on the National Priorities List (NPL).

The Swift Adhesives and Coatings (Swift) facility was located at 2847 Awaawaloa Street in Honolulu, Hawaii from 1960 to 1976 (see Figure 1: Site Location Map). Swift and many other tenants leased the warehouse space from Ronald Y. Hirahara (1). Currently the site is occupied by Custom Woodworks Limited, a small wood products manufacturer (see Section 4, Summary of FIT Activities). Other current tenants at the same address include Industrial Hardware Hawaii, Bob Stokes Cabinets, and P & J Automotive, who sub-leases a garage and small side lot from Custom Woodworks Ltd.

Swift was engaged in the blending of synthetic and naturally occurring raw materials to produce industrial adhesives and coatings (1). The Swift site consists of a 5,000 square-foot corrugated iron warehouse that contains a concrete mezzanine floor above a garage storage area. In the garage is piping and other evidence of Swift's wastewater disposal system that presumably connected to the storm drain in the adjacent paved side lot (see Appendix B, Photodocumentation). Also at the site is a septic tank for domestic sewage. The current owner stated that the septic system is pumped out regularly because it does not drain well. The depth to groundwater is only 3-4 feet and the land has subsided 2 feet in the last 15 years (2).

SOURCE : Base from USGS Puuloa and Honolulu Quadrangles



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Figure 1 SITE LOCATION MAP  
SWIFT ADHESIVES AND COATINGS  
2847 AWAALOA STREET  
HONOLULU, HAWAII 96819

## 2. APPARENT PROBLEM

In May 1981, Estech Specialty Chemicals Corporation (Estech) of Chicago filed a Notification of Hazardous Waste Site, EPA Form 8900-1 (3). An attorney for Estech filed the form, a reporting requirement under CERCLA Section 103(c), because Estech operated Swift from 1975 to 1976. The form states that no release of waste to the environment is known to have occurred. FIT was tasked by EPA to conduct a CERCLA Site Inspection at Swift because of the Section 103(c) form and the potentially high score at the site if the aquifer zones were shown to be connected.

FIT contacted a former facility operator who recalled that Swift had two waste cesspools and an underground sump on-site (4). During the FIT site visit on February 3, 1989, two drains to the storm drain and a domestic sewage septic tank were examined. Based on visual evidence from piping left by Swift, it appears that wastewater from rinsing the adhesive mixing tanks were disposed of to a storm drain to the south of Swift and possibly to the adjacent septic tank (2). The City of Honolulu, Wastewater Management Program, did not have a permitting system for sewer discharges until 1977, so no records are available regarding Swift's wastewater disposal practices (5). The storm drain at Swift discharges into the Pacific Ocean at Keehi Lagoon, located 0.6 miles to the south (5) (see Figure 1-1).

Currently, there is no visible indication of Swift's waste management activities at the site except for the piping mentioned previously. On the mezzanine floor of the warehouse, two large holes (probably for tall mixing tanks) have been filled with concrete. Custom Woodwork uses very little hazardous material (furniture oil) and produces only sawdust waste (2).



### 3. HRS FACTORS

#### 3.1 OBSERVED RELEASE

No sampling has been conducted in regard to Swift's waste management activities. The potential for documenting an observed release to air or surface water is low because of the flushing effect of storm events on the drain system since 1976. The potential for a release of contaminants from the storm drain or septic tank to the shallow groundwater aquifer is moderate due to their commingling. However, the shallow aquifer is not used for drinking water and does not appear to be hydraulically connected to the deep, artesian, drinking water aquifer (see Section 3.3, Groundwater).

#### 3.2 WASTE TYPE AND QUANTITY

The exact waste types and quantities generated by Swift are unknown. The general categories of raw materials used by this type of industry include solvent-based oils and resins, plasticizers, polyvinyl acetate, acrylics, ketones, esters, animal glue, starch, and rubber (6). All of these substances were probably generated during the rinsing of the blending and mixing equipment before wastewater disposal to the sewer (4).

#### 3.3 GROUNDWATER

The island of Oahu is approximately 604 square miles in area. Oahu developed through the building and coalescence of two shield volcanoes that began to form about 5 million years ago during the late Tertiary Period. The oldest of these volcanoes, Waianae, formed the western side of the island. The eastern and central sections were subsequently formed by the Koolau volcano, which poured lavas and ash against the eroding slopes of the Waianae dome to form the mid-island area known as the Schofield Plateau.

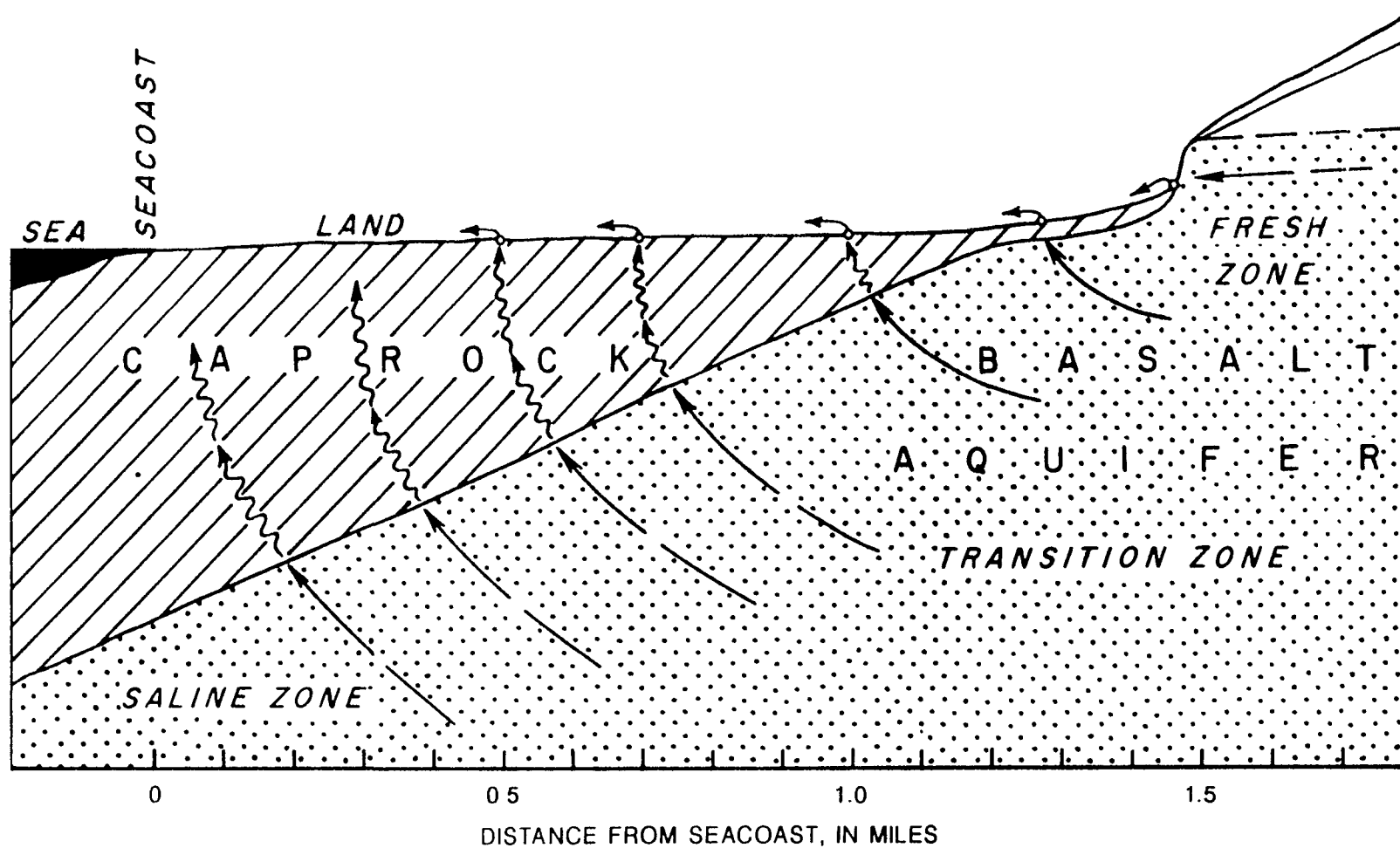
Two main geohydrological units exist beneath the Swift facility. The upper coastal plain deposits, consisting of terrestrial and marine sediments, weathered basalt and coralline material are up to 1,000 feet thick at the shore. Sea level fluctuations during the Pleistocene Epoch resulted in a sequence of stratified marine limestones and terrestrial volcanic sediments. The combined coastal sedimentary mass is known locally as caprock. In the vicinity of Swift, the coastal caprock forms a wedge approximately 1.5 miles wide, overlying the Koolau Volcanic Series. The Koolau Volcanic Series consists of thinly bedded basalt that erupted from fissures and vents near the crest of the Koolau volcano (7,8). (See Figure 3-1: Caprock Diagram.)

The caprock sequence thickens toward the ocean with an increasing number of alternating marine limestone and terrestrial alluvium layers in the subsurface. The limestone could have local hydraulic conductivity values as great as  $10^{-2}$  cm/sec, but the alluvial layers are much less permeable. Hydraulic conductivities for the alluvial layers are estimated at less than  $10^{-5}$  cm/sec. The caprock has reduced vertical permeability because of these less permeable layers. The caprock as a unit acts as a confining member to form artesian conditions in the underlying Koolau aquifer (7). This lower aquifer is designated as a Sole Source Aquifer under Section 1424(e) of the Safe Drinking Water Act of 1974 (52FR45496, 11/30/87).

The water table aquifer at Swift occurs in highly permeable coral reef deposits in the upper caprock. Shallow groundwater occurs at approximately 5 feet below ground surface. The shallow aquifer is brackish and non-potable and probably hydraulically connected to the Pacific Ocean (8,9). Further inland this caprock aquifer is used in limited quantities for industrial cooling water and air conditioning systems (9,10).

Groundwater in the Koolau aquifer is the principal source of drinking water on Oahu. FIT estimates the depth to the Koolau aquifer beneath Swift to be approximately 600 feet. This depth is based on logs from the closest municipal wells and by extrapolating depth of caprock contours on

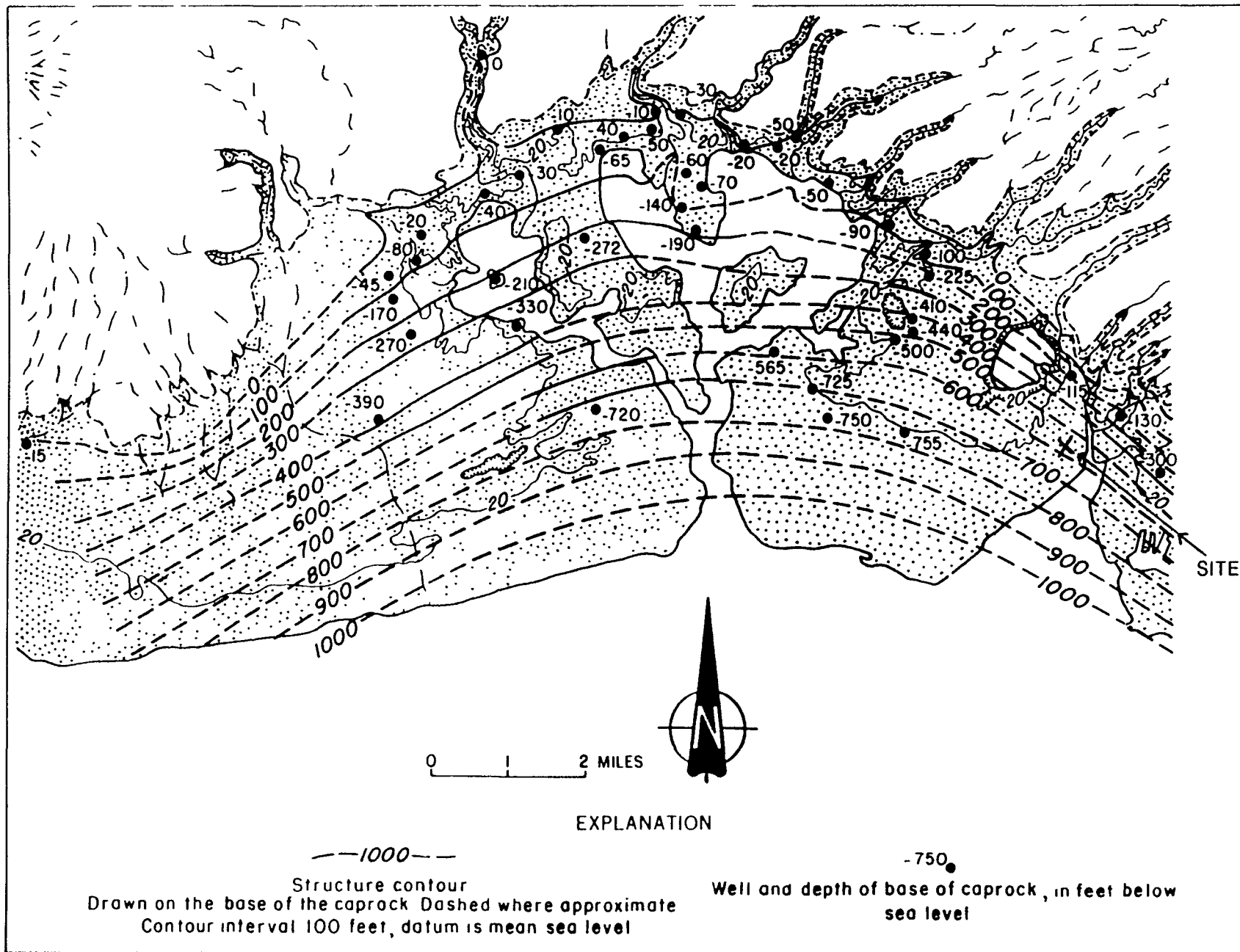
SOURCE USGS Paper No 1778, Groundwater Resources in Southern Oahu, Hawaii



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Figure 3-1 CAPROCK DIAGRAM

SOURCE USGS Paper No 1778, Groundwater Resources in Southern Oahu, Hawaii



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Figure 3-2 CAPROCK THICKNESS CONTOURS

geological maps (7) (see Figure 3-2: Caprock Thickness Contours). Note that the caprock "pinches out" to the northeast where the Koolau aquifer occurs near ground surface.

The City and County of Honolulu Water Use District has an integrated drinking water supply system that serves approximately 368,000 people from 23 sources. There are 12 well "stations" consisting of 50 wells (68% of total supply), four groundwater tunnel sources consisting of 10 tunnels (3%), three groundwater shafts (28%), three springs (<1%), and one surface water source (<1%) (11).

The closest municipal wells occur at the Kalihi station located 2.9 miles east of Swift (12) (see Figure 1-1). Kalihi Station consists of an eight-well field ranging in total depth from 360 to 490 feet with the highest perforations occurring at 229 feet in the Koolau artesian aquifer (12). The nearby Camp Catlin and Pearl Harbor Naval Reserves receive all their drinking water from water tunnels located at Waiawa (70-90%), Red Hill, and Halawa, located more than 3 miles northwest of Swift (8).

Groundwater on Oahu generally flows from areas of high recharge in the central mountains to areas of discharge at seeps and springs near the ocean shoreline. Also, the underlying artesian water in the Koolau aquifer discharges upwards into the caprock and hence to the Pacific Ocean, thus impeding downward migration of contamination and promoting subsurface lateral flow toward the sea (7,9) (see Figure 3-1). The artesian aquifer's hydraulic head in the central Honolulu area was up to 30 feet above mean sea level in the early 1900s. However, recently the head has dropped to mean sea level or below due to over-pumping of the Koolau aquifer (7).

Table 3-1 CLIMATE PARAMETERS HONOLULU INTERNATIONAL AIRPORT

PARAMETER	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	ANNUAL
<b>RAINFALL</b>													
Mean (in.)	4.55	2.61	3.39	1.63	0.99	0.43	0.55	0.69	0.77	1.63	3.18	3.61	24.03
Max. (in.)	14.74	13.68	20.79	8.92	7.23	2.46	2.01	3.08	2.74	5.83	14.72	12.10	
Min. (in.)	0.48	0.48	0.01	0.01	0.05	Tr.	0.03	Tr.	0.07	0.11	0.03	0.39	
24 hours (in.)	6.72	6.88	17.10	4.21	3.44	2.28	1.03	2.35	1.40	2.81	9.15	8.14	
<b>EVAPORATION(I)</b>													
Mean (in.)	4.78	5.09	6.05	7.04	7.53	8.85	9.30	9.21	7.83	6.84	5.71	4.71	83.04
<b>TEMPERATURE</b>													
Mean (F)	72.4	72.6	73.3	74.8	76.3	78.1	79.0	79.8	79.6	78.4	76.0	73.7	76.2
Max. (F)	85	85	87	87	88	90	90	91	92	91	89	85	
Min. (F)	53	54	58	59	64	65	67	67	68	64	58	54	

SOURCE Pan Evaporation in Hawaii, 1894-1970  
 State of Hawaii Dept of Land and Natural Resources  
 Report R51, 1973

The seasonal precipitation from November to April at nearby Honolulu International Airport is 18.97 inches (see Table 3-1: Climate Parameters). For the same period the seasonal pan evaporation is 33.38 inches (13). A conversion factor of 0.7 has been developed by the U.S. Weather Bureau to calculate lake evaporation from pan evaporation data (14). Therefore, FIT calculated the net seasonal precipitation at the Swift site to be approximately negative 4.4 inches.

### 3.4 SURFACE WATER

The Pacific Ocean lies approximately 0.6 miles south of Swift in Keehi Lagoon. Surface runoff from Swift is not likely to enter the ocean directly because of the storm water drainage system under the paved areas of the site (2). Surface waters within a 3-mile radius of the site are not used for drinking water purposes (11).

Numerous sensitive environments lie within two miles of Swift. These include coral reefs, sand and mud flats, tourist beaches and the open sea (see Figure 1-1). Proposed Revised HRS considerations for recreational use of surface water may be a significant factor for all Hawaii sites because of the heavily used tourist beaches near Honolulu.

Federally endangered species in the area are all migratory visitors (e.g., Humpback whale, Hawksbill turtle, and Hawaiian black necked stilt) (15). The black necked stilt may have nesting areas on islets in Keehi Lagoon, located 1.5 miles south of Swift (16,18).

The one year, 24-hour rainfall at Swift is 3.0 inches (17).

### 3.5 AIR

The potential wastes at the Swift site do not appear to pose a release threat via the air route. The site is completely paved, no odors or HNu organic vapor readings were observed during the FIT site visit, and all potential waste disposal areas are sub-surface (2).

### 3.6 PROPOSED REVISED HRS CONSIDERATIONS

The Swift facility was connected by storm drain to the Pacific Ocean at Keehi Lagoon, located 0.6 miles southeast of the site. Keehi Lagoon and nearby Honolulu Harbor, to the east of the site, are used for nehu (bait fish) fishing to supply bait for the tuna long lines. Commercial tuna, snapper, and grouper fishing grounds occur more than 15 miles offshore since inshore waters have mainly been "fished out." Recreational and subsistence fishing are still common in Honolulu Harbor (15,16).

Proposed revised HRS considerations for recreational use of surface water may be a significant factor for all Hawaiian sites due to the presence of heavily used tourist beaches near Honolulu.



#### 4. SUMMARY OF FIT ACTIVITIES

A CERCLA Site Inspection of the former Swift Adhesives and Coatings facility was conducted on February 3, 1989 by FIT members Thomas Beer and Rita Mundy. The inspection began at 10:00 a.m. with a meeting in the on-site office with Steven Eder, manager of Custom Woodwork Ltd. the current leaseholder. Some relevant pieces of information obtained during the interview and subsequent facility tour include (2):

- o Custom Woodwork has operated on-site since 1984. Steven had little knowledge of Swift's activities;
- o Custom Woodwork has no site map;
- o Custom Woodwork only generates sawdust waste, mainly from manufacturing door and window frames;
- o On the mezzanine floor the outlines of two large mixing vats and various drains and piping were observed. The pipes lead through a garage space (sub-leased to P & J Automotive) into the floor and presumably into the nearby storm drain or septic tank;
- o The land has subsided 2 to 3 feet in the last 15 years, which makes the drains and septic system inefficient. Brackish groundwater occurs only 3-4 feet below ground surface.

FIT determined that sampling was not warranted at the Swift site because of the following HRS factors:

- o An observed release to shallow groundwater may be documentable, however, the brackish, shallow caprock aquifer at Swift does not appear to be hydraulically connected to the deep artesian aquifer of concern;
- o There are no drinking water targets for the surface water route; and
- o An observed release of CERCLA hazardous substances to the air route is not likely to be documentable due to the subsurface nature of the potential waste disposal areas.

## 5. EMERGENCY REMOVAL CONSIDERATIONS

Emergency removal does not appear warranted at the Swift facility because of the low threat of direct contact or fire and explosion to the public (2).

## 6. CONCLUSIONS

The Swift Adhesives and Coatings Company (Swift) operated at 2847 Awaawaloa Street, Honolulu, Hawaii from 1960 to 1976. There is very little file information concerning this site and no documented record of Swift's waste management activities. Based on the FIT site visit and discussions with a former employee and various agency personnel it appears that Swift discharged wastewater from equipment rinsing operations to the storm sewer and, possibly, the septic tank on-site. This wastewater may have contained solvent-based oils and resins, which drained to the nearby Pacific Ocean.

The Swift site does not appear to be eligible for inclusion on the National Priorities List because of the following factors:

- o The shallow groundwater aquifer at Swift is brackish, it is not used for drinking or irrigation purposes, and it does not appear to be connected to the deep, artesian drinking-water aquifer;
- o The surface water route has no drinking water target population; and
- o All potential waste disposal areas are sub-surface and would not pose an air release threat.

7. EPA RECOMMENDATION

	<u>Initial</u>	<u>Date</u>
No Further Remedial Action Planned	<u>gml</u>	<u>8.29.89</u>
Listing Site Inspection	<u></u>	<u></u>
Notes:		

## 8. REFERENCES

1. Chang, Daniel, State of Hawaii, Department of Health "Preliminary Assessment," November 20, 1984.
2. Beer, Thomas W., Ecology and Environment, Inc., "Site Inspection Notes, Swift Adhesives and Coatings," February 3, 1989.
3. Freyman, Judith S., Estech Specialty Chemicals Corporation, EPA Form 8900-1, "Notification of Hazardous Waste Site," for Swift Adhesives and Coatings, May 28, 1981.
4. Mr. Hirata, Former Swift operator, and Thomas W. Beer, Ecology and Environment, Inc., telephone conversation, January 23, 1989.
5. Wong, Neil, City and County of Honolulu, Public Works Department, and Thomas W. Beer, Ecology and Environment, Inc., telephone conversation July 26, 1989.
6. Ng, Adam, ICF Technology Inc. (FIT), "Reassessment of Swift Adhesives and Coatings, Honolulu, Hawaii," August 31, 1988.
7. U.S. Geological Survey, "Ground-Water Resources in Southern Oahu, Hawaii," Water Supply Paper No. 1778, Washington, D.C. 1964.
8. Department of the Navy, "Initial Assessment Study of Pearl Harbor Naval Base, Oahu, Hawaii," NEESA 13-002, October 1983.
9. Takasaki, K.J., "Elements Needed in Design of a Ground-Water Quality Monitoring Network in the Hawaiian Islands," U.S.G.S. Water Supply Paper 2041, Washington, D.C., 1977.
10. Mink, John F., and L. Stephen Lau, University of Hawaii, Water Resources Research Center, "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii," November 1987.
11. State of Hawaii Department of Health, "Final Report, Interim Drinking Water Study, Municipal Water Systems, State of Hawaii," Part I, November 1977.
12. State of Hawaii, Department of Land and Natural Resources, Division of Water and Land Development, Ground Water Index database, August 31, 1984.
13. State of Hawaii, Department of Land and Natural Resources, "Pan Evaporation in Hawaii, 1894-1970." Report R51, 1973.
14. Kohler, M.A. et al., Weather Bureau, Washington, D.C., "Evaporation from Pans and Lakes," May, 1955.

15. Naughton, John, National Marine Fisheries Service Thomas W. Beer, Ecology and Environment, Inc., telephone conversation, March 15, 1989.
16. Kokubun, Reginald, State of Hawaii Division of Aquatic Resources, statistician, with Thomas W. Beer, Ecology and Environment, Inc., March 16, 1989.
17. U.S. Department of Commerce, Weather Bureau, Technical Paper No. 43, "Rainfall-Frequency Atlas of the Hawaiian Islands," No date.
18. Engbring, John, U.S Fish and Wildlife Service and Thomas W. Beer, Ecology and Environment, Inc., telephone conversation, March 16, 1989.

APPENDIX A

CONTACT LOG AND REPORTS

SITE INSPECTION CONTACT LOG

Facility Name: Swift Adhesives  
Facility I.D.#: HID980637516

Name	Affiliation	Phone No.	Date	Info
Mrs. R. Hirahara	Site owner	808 839-1012	1/13/89	Gave permission to visit site. Said Swift left in 1976.
Mr. Hirata	Swift Former Operator	FX-6 Personal Privacy	1/23/89	See Contact Report.
Mark Ingoglia	State of Hawaii	808 548-2076	1/23/89	New Superfund group manager. They have no files yet.
Steven Eder	Custom Woodwork	808 833-5287	1/24/89	Arranged for site visit on 2/3/89. Faxed copy of cover letter and letter of introduction.
Bill Wilson/ Eric Sadoyama	Dept. of Health Haz. Waste Prog.	808 548-8837	2/2/89	No file found.
Tom Beer	Ecology & Environment, Inc.	415 777-2811	2/3/89	Site Inspection
John Naughton	National Marine Fisheries Service	808 541-2927 808 955-8831	3/15/89	See Contact Report.
Reginald Kokubun	State of Hawaii, Div. of Aquatic Resources	808 548-4002 808 548-5896	3/16/89	See Contact Report.
John Engbring	U.S. Fish and Wildlife Service	808 541-1201 808 541-2749	3/16/89	See Contact Report.
Neil Wong	Public Works Wastewater Management	808 527-5037 808 527-5363	7/26/89	In 1976 they had no permitting system for discharges to the sewer lines. They have no record for Swift.



# CONTACT REPORT

AGENCY/AFFILIATION: Former Swift Operator		
DEPARTMENT: Mapelli Brothers		
ADDRESS/CITY: 2613 WaiWai Loop		
COUNTY/STATE/ZIP: Honolulu, HI 96819		
CONTACT(S)	TITLE	PHONE
1. Mr. Hirata		FX-6 Personal Privacy
2.		
E & E PERSON MAKING CONTACT: <i>J. Beer</i>		DATE: 1/23/89
SUBJECT: Swift Waste Management Practices		
SITE NAME: Swift Adhesives		EPA ID#: HID980637516

Mr. Hirata is a former worker for the Swift company. He briefly described how wastewater was generated when equipment and mixing vats were cleaned out with small volumes of solvents (unspecified) and large volumes of water. The resulting wastewater was disposed to "two waste cesspools and an underground sump."

Mr. Hirata now works for another company and he stated that if I wanted more of his time I would have to pay for it.

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> National Marine Fisheries Service		
<b>DEPARTMENT :</b>		
<b>ADDRESS/CITY:</b> Honolulu		
<b>COUNTY/STATE/ZIP:</b> Hawaii		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. John Naughton		808-955-8831
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Tom Beer <i>JWB</i>		<b>DATE:</b> 3/15/89
<b>SUBJECT:</b> Commercial Fisheries Near Oahu		
<b>SITE NAME:</b> Swift Adhesives and Coatings	<b>EPA ID#:</b> HID980637516	

The major commercial fishing grounds around Oahu occur mainly greater than 15 miles offshore at depths of 60 to 150 fathoms (360 - 900 feet).

The catch consists mainly of Tuna, Snapper and Grouper (sea bass).

Inshore areas near Honolulu have been "fished out" for commercial purposes. Still reef fisheries for recreational and subsistence use.

Also in and near Honolulu harbor there are nehu (bait fish) fisheries to bait the Tuna long lines.

For catch data call Division of Aquatic Resources, Statistics Department 808-548-4002.

Migratory marine animals in or near Honolulu Harbor on the Federal endangered species list include the Humpback Whale and Hawksbill Turtle. Protected or threatened species that come close to shore near Honolulu Harbor include the Green Turtle, Spinner porpoise and Bottlenose dolphin.

For terrestrial endangered species information call William Cramer of the U.S. Fish and Wildlife Service on 808-541-2749.

# CONTACT REPORT

AGENCY/AFFILIATION: State of Hawaii, Division of Aquatic Resources		
DEPARTMENT : Statistics		
ADDRESS/CITY: Honolulu		
COUNTY/STATE/ZIP: Hawaii		
CONTACT(S)	TITLE	PHONE
1. Reginald Kokubun		808-548-5896
2.		
E & E PERSON MAKING CONTACT: Tom Beer <i>JWB</i>		DATE: 3/16/89
SUBJECT: Catch data for Oahu fisheries		
SITE NAME: Swift Adhesives and Coatings		EPA ID#: HID980637516

For detailed catch data I need to request and complete a data request form. In general their catch data are broken down into a grid system of catch areas and inshore (0-20 fathoms) versus offshore (20-150 fathoms) areas. 6 feet = 1 fathom.

In 1987 the annual commercial catch was 11.44 million (M) pounds around Oahu.

Tuna	7.5 M lbs.
Snapper	0.7 M lbs.
Grouper	0.1 M lbs.

Recreational fish catch data is not recorded.

Most tuna is caught approximately 60 to 80 miles offshore.

# CONTACT REPORT

AGENCY/AFFILIATION: U.S. Fish and Wildlife Service		
DEPARTMENT :		
ADDRESS/CITY: Honolulu		
COUNTY/STATE/ZIP: Hawaii		
CONTACT(S)	TITLE	PHONE
1. John Engbring	Endangered species specialist	808-541-2749
2. William Cramer	" " "	
E & E PERSON MAKING CONTACT: Tom Beer <i>W/B</i>		DATE: 3/16/89
SUBJECT: Terrestrial endangered species near Honolulu Harbor		
SITE NAME: Swift Adhesives and Coatings		EPA ID#: HID980637516

1. There are no state or federally designated wetlands or sensitive environments near Honolulu Harbor. However, the federally endangered species of Hawaiian Black Necked Stilt may have nesting areas on islets in Keehi Lagoon, located 2.5 miles west of central Honolulu Harbor.
2. William knows of no endangered plants along the Honolulu Waterfront area. Further, more detailed information would have to be requested using a location map and the area we are interested in.

**APPENDIX B**

**PHOTODOCUMENTATION**

FIELD PHOTOGRAPHY LOG SHEET

DATE: 2/3/89

TIME: AM

DIRECTION:

SE

WEATHER:

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Custom Woodworks warehouse entrance.

DATE: 2/3/89

TIME AM

DIRECTION:

N

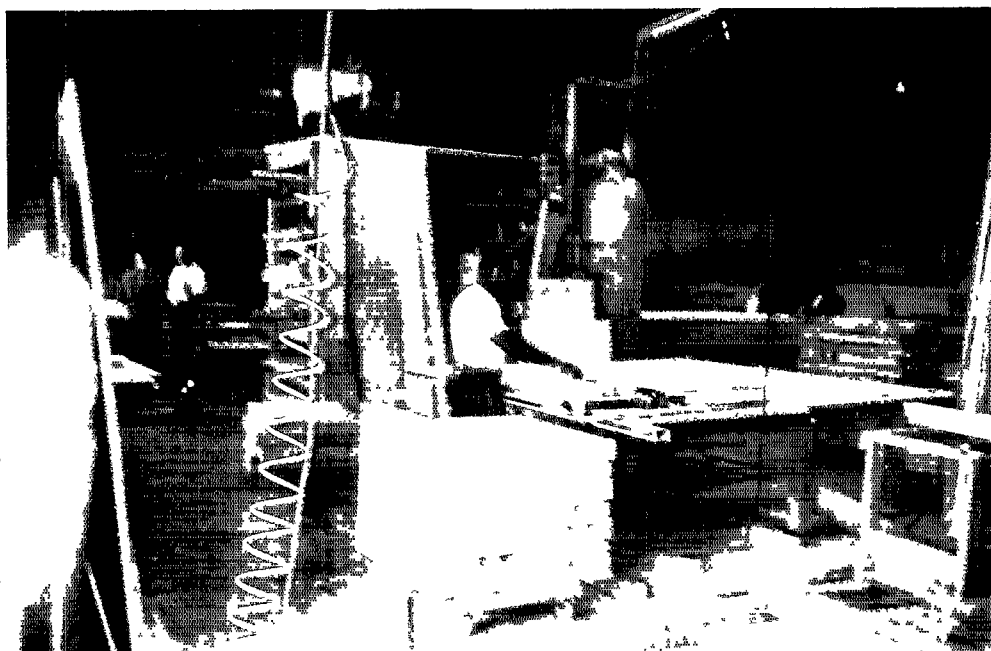
WEATHER:

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Current woodworking operations. Only sawdust waste generated.

h/tb/swift/clcr

FIELD PHOTOGRAPHY LOG SHEET

DATE: 2/3/89

TIME: \_\_\_\_\_ AM

DIRECTION: \_\_\_\_\_

WEATHER: \_\_\_\_\_

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Former location of Swift mixing vat?

DATE: 2/3/89

TIME: \_\_\_\_\_ AM

DIRECTION: \_\_\_\_\_

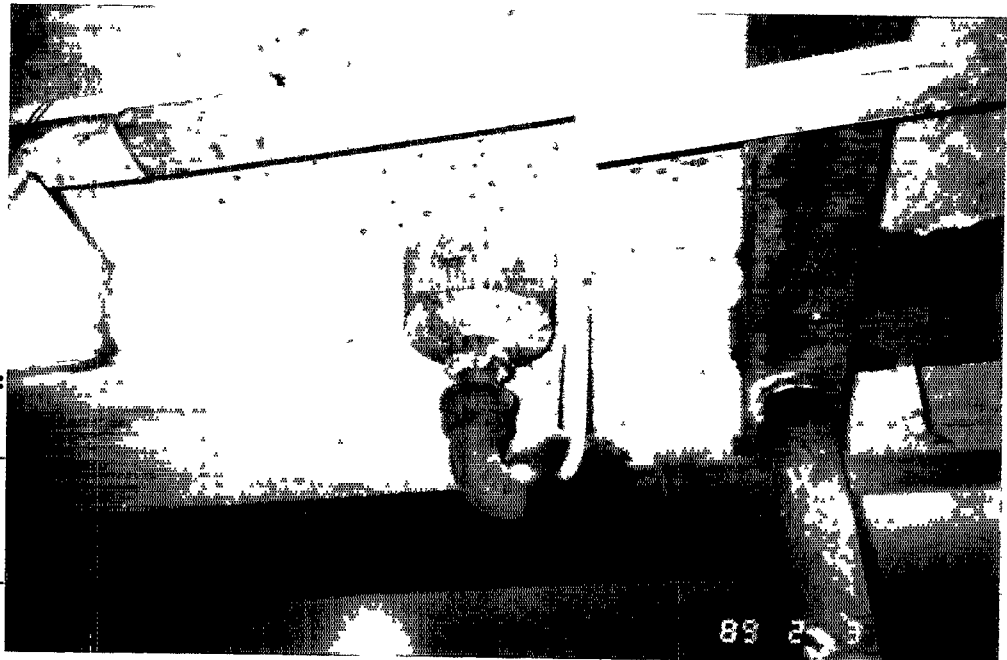
WEATHER: \_\_\_\_\_

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Wastewater drain in garage area roof. Pipe leads to a drain in the floor.

h/tb/swift/crcl

FIELD PHOTOGRAPHY LOG SHEET

DATE: 2/3/89

TIME: \_\_\_\_\_ AM

DIRECTION:

E

WEATHER: \_\_\_\_\_

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Paved side lot. Note storm drain opening.

DATE: 2/3/89

TIME: \_\_\_\_\_ AM

DIRECTION:

E

WEATHER: \_\_\_\_\_

PHOTOGRAPHED BY:

T. Beer

SAMPLE ID#:

DESCRIPTION:



Septic tank in paved main parking area.

h/tb/swift/crcl